

WHAT IS CLAIMED IS:

1. A hermetic compressor comprising:
  - a housing defining an interior plenum;
  - a compressible vapor received within said interior plenum;
  - a motor disposed within said housing;
  - a compression mechanism disposed within said housing and operably connected to said motor; and
  - an elongate tuner disposed entirely within said interior plenum, said tuner having an open end and an opposite closed end, said tuner defining a resonating cavity, said resonating cavity in direct communication with said interior plenum via said open end, said resonating cavity defining a length extending from said open end to said closed end whereby said tuner attenuates a pressure wave wherein said length is approximately one quarter of the wavelength of the pressure wave.
2. The hermetic compressor of claim 1 wherein said length of said tuner defines an arcuate shape.
3. The hermetic compressor of claim 1 wherein said length of said tuner is substantially straight.
4. The hermetic compressor of claim 1 wherein said motor includes a stator and said tuner is mounted on said stator.
5. The hermetic compressor of claim 1 wherein said tuner is mounted to said housing.
6. The hermetic compressor of claim 1 wherein said tuner has a substantially circular cross section.
7. The hermetic compressor of claim 1 wherein said interior plenum contains vapors at a suction pressure.
8. The hermetic compressor of claim 7 further comprising a suction inlet tube extending through a wall of said housing, said suction inlet tube communicating said compressible

vapor from outside said housing to said interior plenum, said open end of said tuner indirectly communicating with said suction inlet tube through said interior plenum.

9. The hermetic compressor of claim 1 wherein said compressor defines a resonant frequency having a resonant wavelength and said length of said resonating cavity is approximately one quarter of the resonant wavelength.

10. The hermetic compressor of claim 1 wherein said tuner is positioned within said interior plenum such that said length extends substantially vertically.

11. The hermetic compressor of claim 1 wherein said tuner is positioned within said interior plenum such that said length extends substantially horizontally.

12. A hermetic compressor for use with a compressible vapor, said compressor comprising:

- a housing having a wall defining an interior plenum;
- a fluid port defining a passageway through said wall and in communication with said interior plenum;
- a motor disposed within said housing;
- a compression mechanism disposed within said housing and operably connected to said motor; and
- a tuner having an open end and an opposite closed end, said tuner defining a resonating cavity extending from said open end to said closed end, said resonating cavity in direct communication with said interior plenum via said open end, and said open end in indirect communication with said fluid port via said interior plenum.

13. The hermetic compressor of claim 12 wherein said tuner is mounted entirely within said interior plenum.

14. The hermetic compressor of claim 12 wherein said wall defines an opening and said tuner is in communication with said interior plenum through said opening and positioned exteriorly of said housing.

15. The hermetic compressor of claim 12 wherein said interior plenum defines a resonant frequency having a wavelength and said resonating cavity defines a length extending between said open end and said closed end, wherein said length measures approximately one quarter of the wavelength of the resonant frequency.
16. The hermetic compressor of claim 12 wherein said tuner extends between said open and closed ends in an arcuate configuration.
17. The hermetic compressor of claim 12 wherein said tuner extends between said open and closed ends in a substantially straight configuration.
18. The hermetic compressor of claim 13 wherein said tuner is mounted on said motor.
19. The hermetic compressor of claim 13 wherein said tuner is mounted to an inner surface of said wall of said housing.
20. The hermetic compressor of claim 12 wherein said fluid port defines a suction inlet wherein vapor at a suction pressure is communicated through said fluid port to said interior plenum.
21. A method of attenuating the noise and vibration within a hermetic compressor having a housing defining an interior plenum, a motor disposed within the housing, a compression mechanism disposed within the housing, a compressible vapor received within the interior plenum, and a fluid port defining a passageway through the housing and in communication with the interior plenum, said method comprising the steps of:
  - providing a tuner defining a resonating cavity and having an open end and an opposite closed end, the resonating cavity defining a length between the open and closed ends; and
  - positioning the tuner such that the open end is in direct communication with the interior plenum and is in indirect communication with the fluid port via the interior plenum.

22. The method of claim 21 wherein said length of said resonating cavity is selected to be approximately one quarter of a wavelength of a resonant frequency defined by the interior plenum.
23. The method of claim 21 wherein said length of said resonating cavity is selected to be approximately one quarter of a selected noise frequency generated by operation of said hermetic compressor.
24. The method of claim 21 wherein the open end of the tuner is positioned in direct communication with compressible vapors at a suction pressure within the interior plenum.
25. The method of claim 21 wherein the step of positioning the tuner includes mounting the tuner entirely within the interior plenum.
26. The method of claim 21 wherein the step of positioning the tuner includes providing an opening in the housing, providing communication between the tuner and interior plenum through said opening and mounting the tuner exteriorly of the housing.
27. The method of claim 21 further comprising the step of determining the length between the open and closed ends of the resonating cavity by positioning a moveable piston in the resonating cavity and repositioning the piston to determine an optimum resonating cavity length.